

A NEW INITIATIVE OF THE ENVIRONMENTAL SCIENCES MUSEUM TO INITIATE A GOODEID CONSERVATION PROGRAM



CONSERVACIÓN DE PECES DE AGUA DULCE EN EL OCCIDENTE DE MÉXICO



Moxiphanus de cola roja (Xenopoma cinctum), restringido mundialmente a la zona centro-occidente de México, incluyendo los Río Grande de Santiago y Río Tamazula. © 2018 The fish doctor.

Promueven:

Museo de Ciencias Ambientales – Centro Cultural Universitario
Universidad de Guadalajara

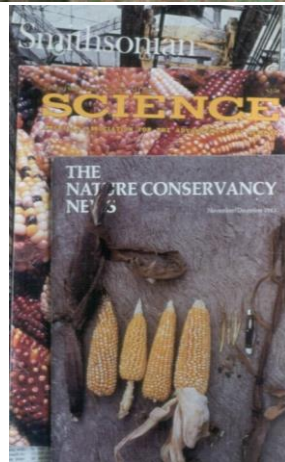
Laboratorio de Biología Acuática 'J. Javier Alvarado Díaz' - Universidad
Michoacana de San Nicolás de Hidalgo



MUSEUM BUILDING UNDER CONSTRUCTION



OUR WORK ON THE FISHES OF JALISCO BEGAN IN 1986 WHILE DOING THE INVENTORIES TO CREAT THE SIERRA DE MANANTLÁN BIOSPHERE RESERVE



WE INVITED DR. JOHN LYONS TO COME TO HELP US WITH THE SURVEY OF FISHES AND THAT IS WHEN HE BEGAN WORKING IN MEXICO



PROGRAMAS DE EDUCACION AMBIENTAL





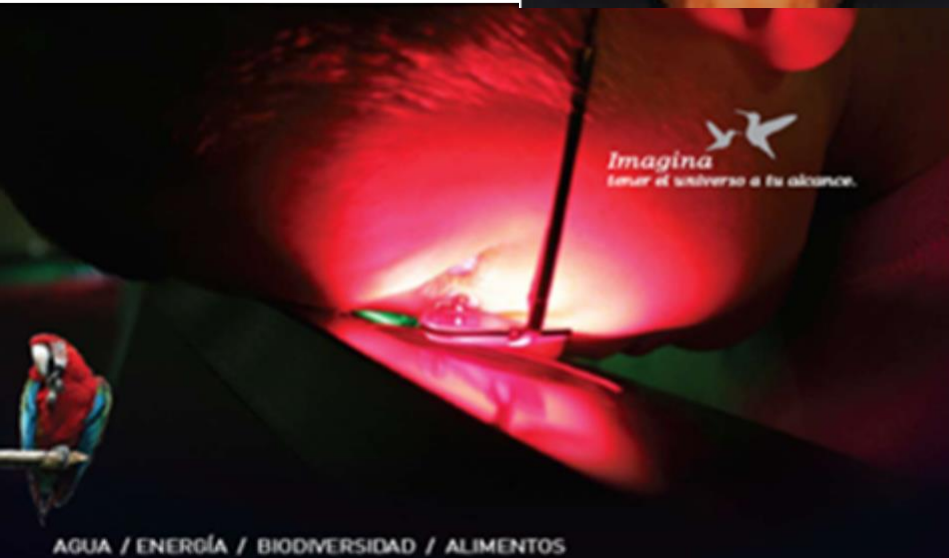
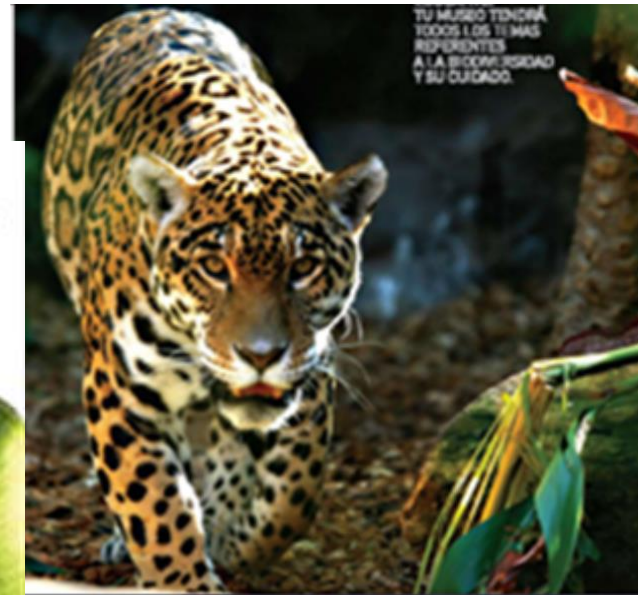
A NOVEL MUSEUM FOR THE CHALLENGES OF THE URBAN ANTHROPOCENE



UN MUSEO DE LA
NATURALEZA
PERO VISTA DESDE
LA CIUDAD

**UNDERSTANDING THE CITY AND INSPIRING THE
CONSERVATION OF NATURE THAT SUSTAIN IT**

ABOUT LIFE AND THE FUTURE



El MUCAM es el Museo de Ciencias Ambientales, ubicado dentro del distrito del Centro Cultural Universitario, su objetivo es mostrar de manera relevante e interesante a los visitantes temas relativos al medio ambiente, la naturaleza, la cultura y la sustentabilidad de la vida en el planeta. Estará solidamente anclado en la identidad regional de Jalisco, que junto con Guadalajara representará una síntesis de las características urbanas, naturales, culturales, socio económicas y de uso del paisaje que caracterizan a México y a todo Mesoamérica, cubriendo simultáneamente temas transversales de pertinencia nacional e internacional.

Jalisco alberga una muestra representativa de los ecosistemas terrestres, marinos, dulceacuícolas y agrícolas de esta amplia región, incluyendo cumbreras nevadas, bosques tropicales, lagos intermontanos, zonas áridas, manglares y lagunas costeras, costas rocosas y arrecifes coralinos. Jalisco, además de albergar comunidades naturales que se encuentran en todo el país, también es origen de de las principales símbolos culturales internacionalmente reconocidos de lo que constituye la esencia de la "mexicanidad". El tequila, el mariachi, el charro, el peón y la alfarería tonalteca, tienen su origen justamente en Jalisco.

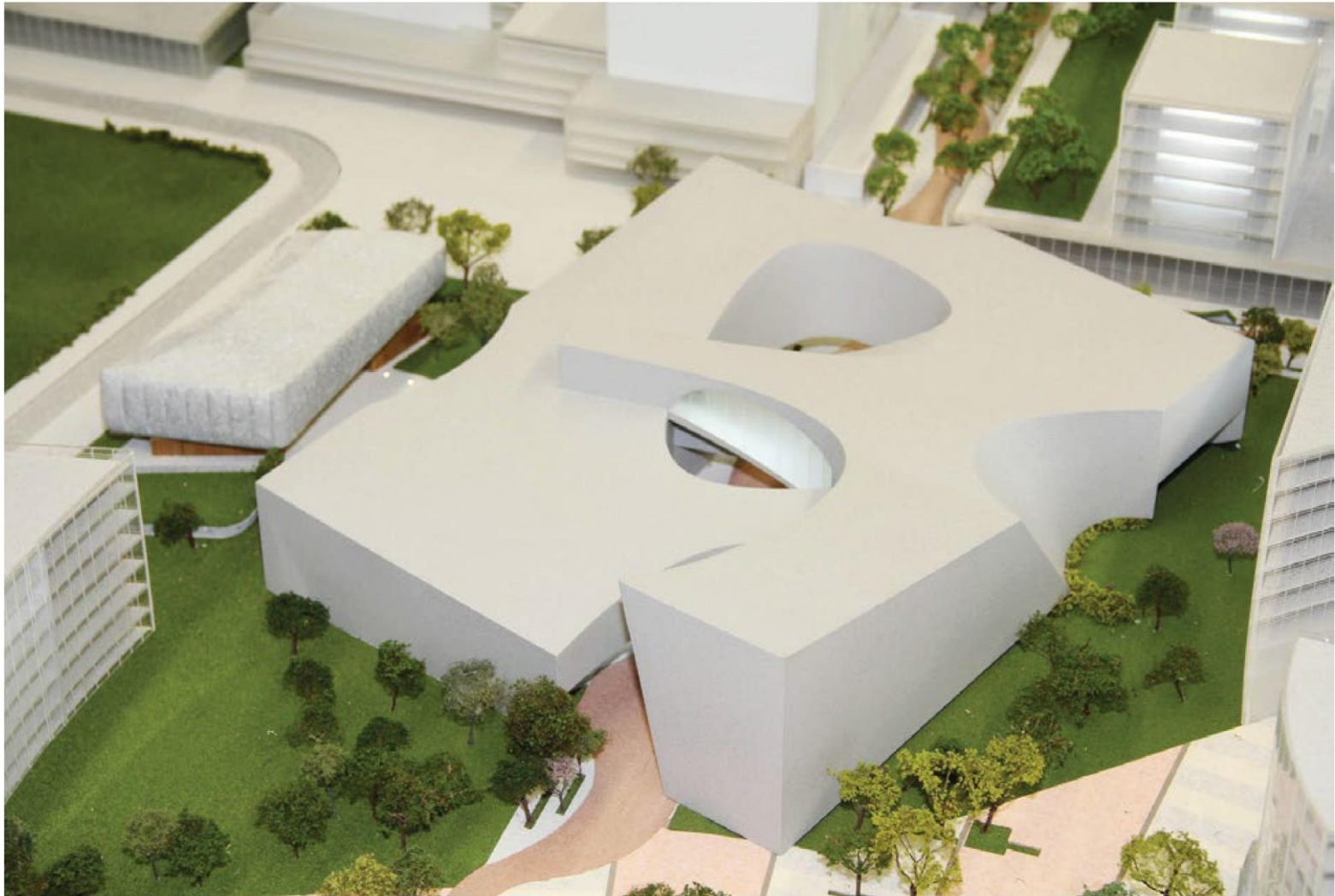


REGIÓN DE ANÁLISIS DEL MUSEO: CUENCAS QUE ALIMENTAN A LAS CIUDADES DE OCCIDENTE



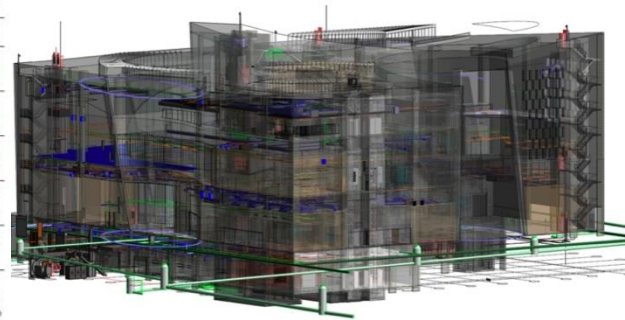
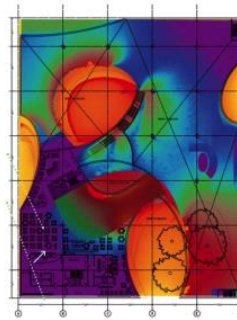
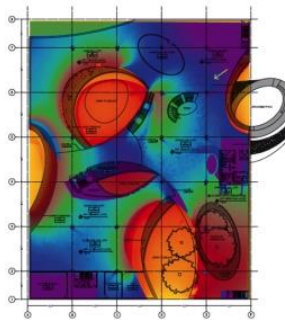
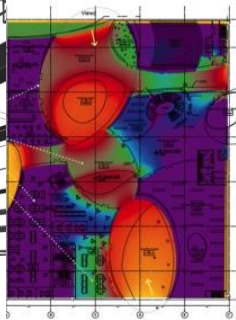
Cuenca del Río Santiago
Cuenca del Río Lerma - Chapala
Cuenca del Río Ameca
Cuenca del Río Ayuquila – Armería
Cuenca del Río Coahuayana

Cuencas endorreicas de Jalisco y Michoacán
Cuencas Costeras Nayarit-Jalisco-Colima
Cuenca del Río San Pedro Mezquital





SUSTENTABILIDAD



SALA CIUDAD



Explorar la complejidad urbana en su máxima expresión

SALA CAMPO



SALA CAMPO



SALA ALTIPLANO



SALA ALTIPLANO



SALA MONTAÑA

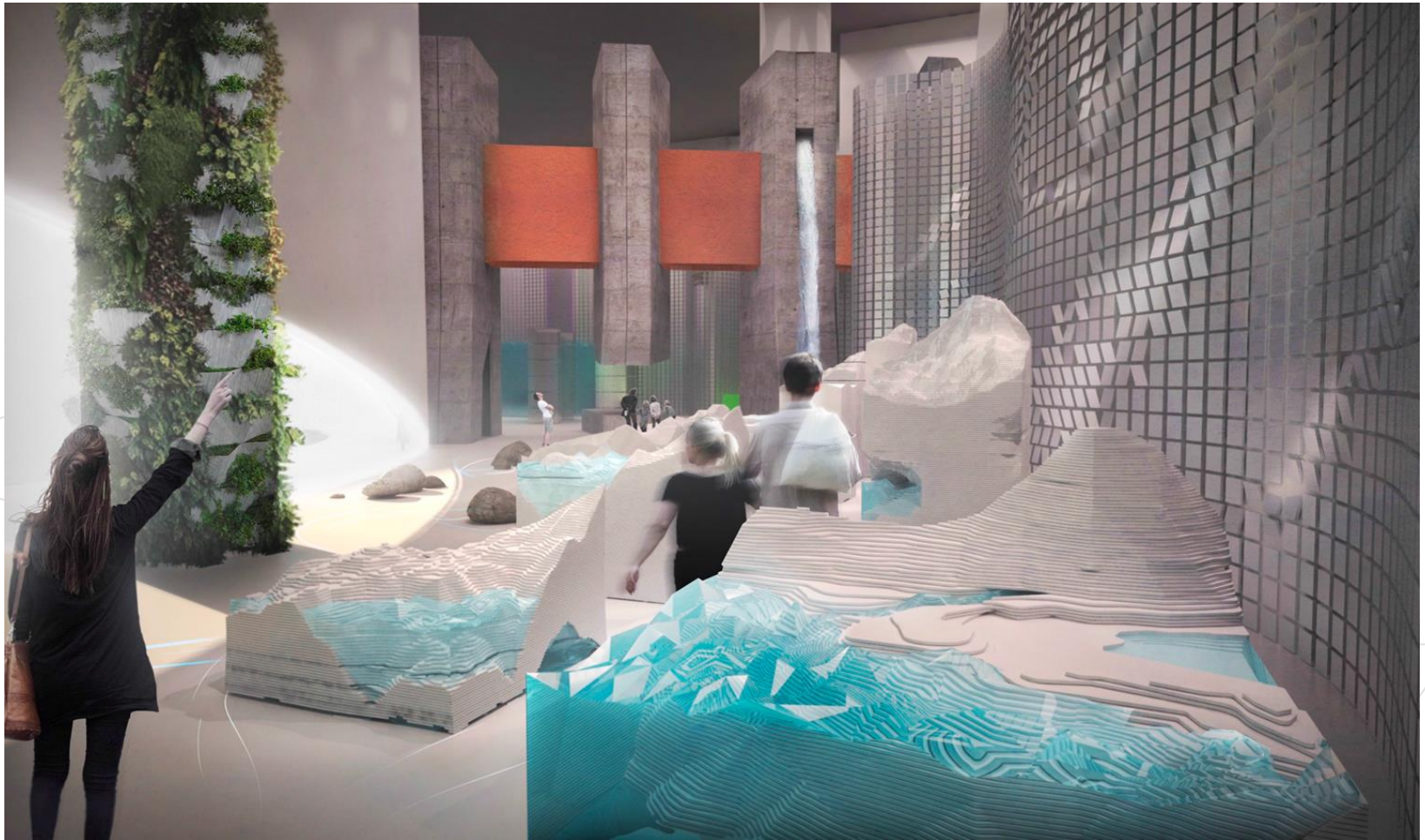


SALA MONTAÑA





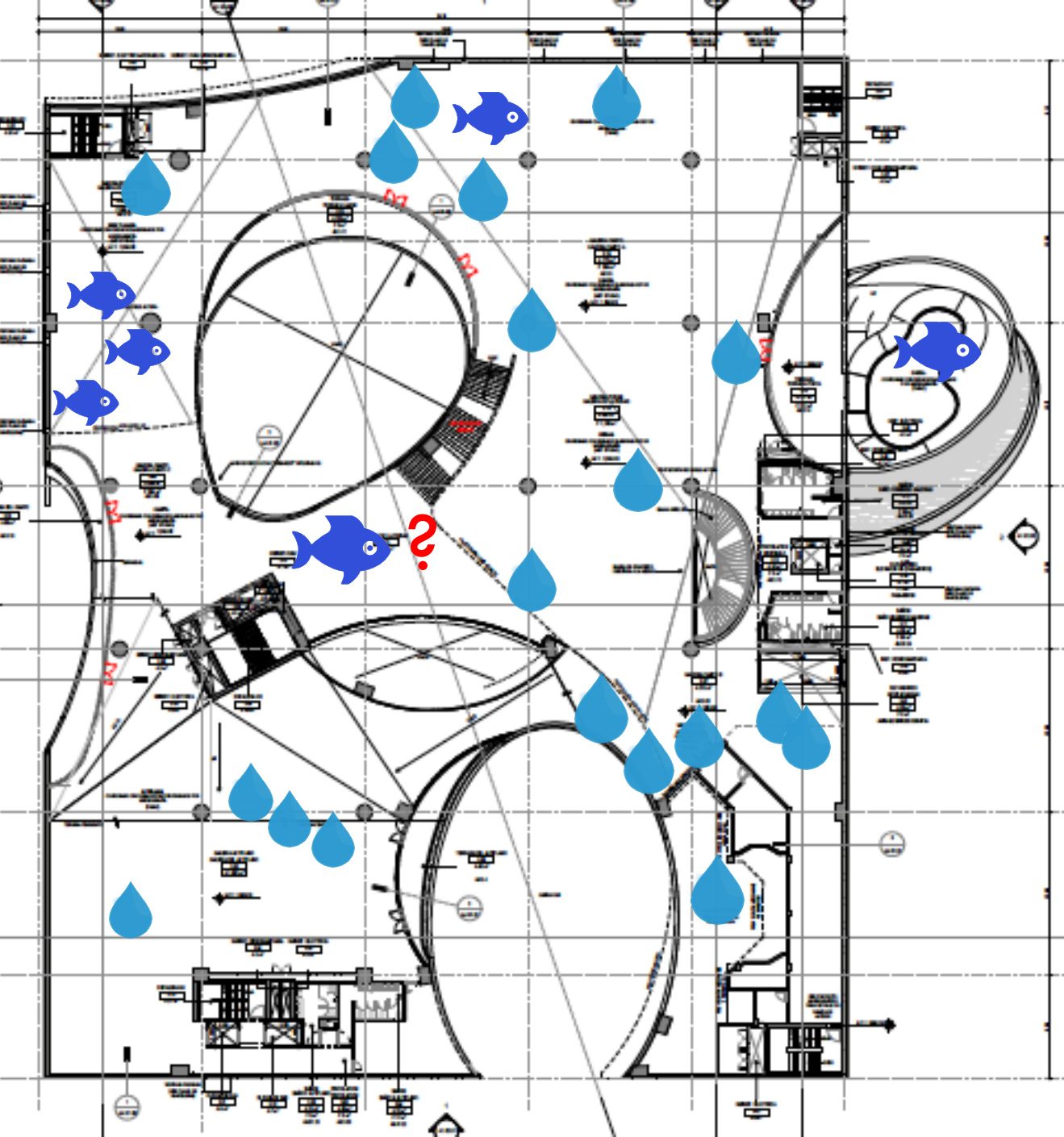
SALA RÍOS Y LAGOS



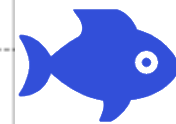


Water & Fish in the museographical design

- Origin and evolution of the landscape (geological, cultural, social, environmental): water sculpting the landscape.
- Functioning of the ecosystem: aquatic ecosystems, cloud forest.
- Environmental services provided to society/city: aquifers, urban rivers and lakes.
- Socio-cultural systems and land use pattern within the ecosystem: shoreline cultures, indigenous worldviews.
- Process of deterioration and the consequences: water pollution and depletion, virtual water.
- Alternatives and proposals for action for the future: ecotechnologies, sustainable consumption.



Water and Fish content in the Galleries

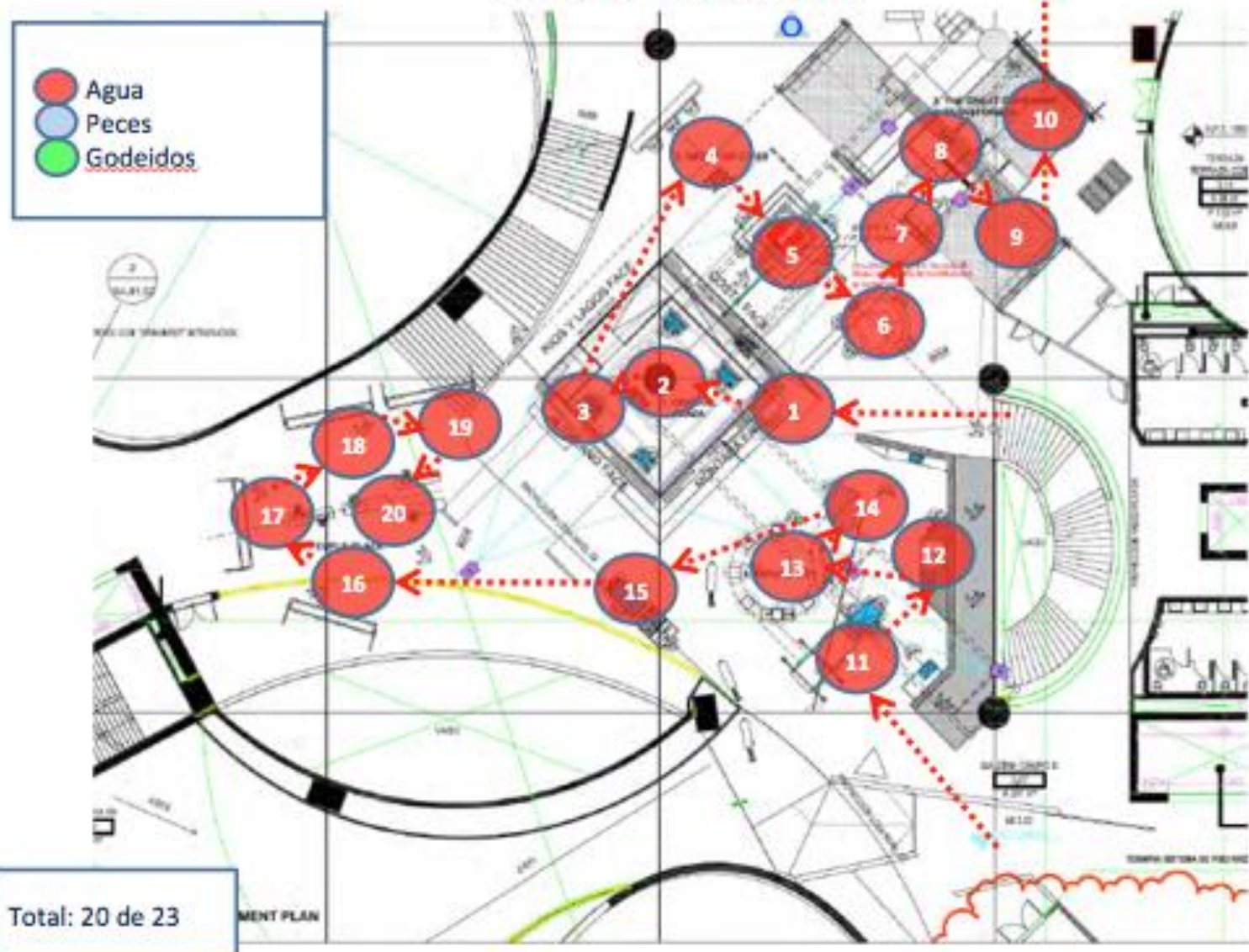


Live fish species



Water exhibits

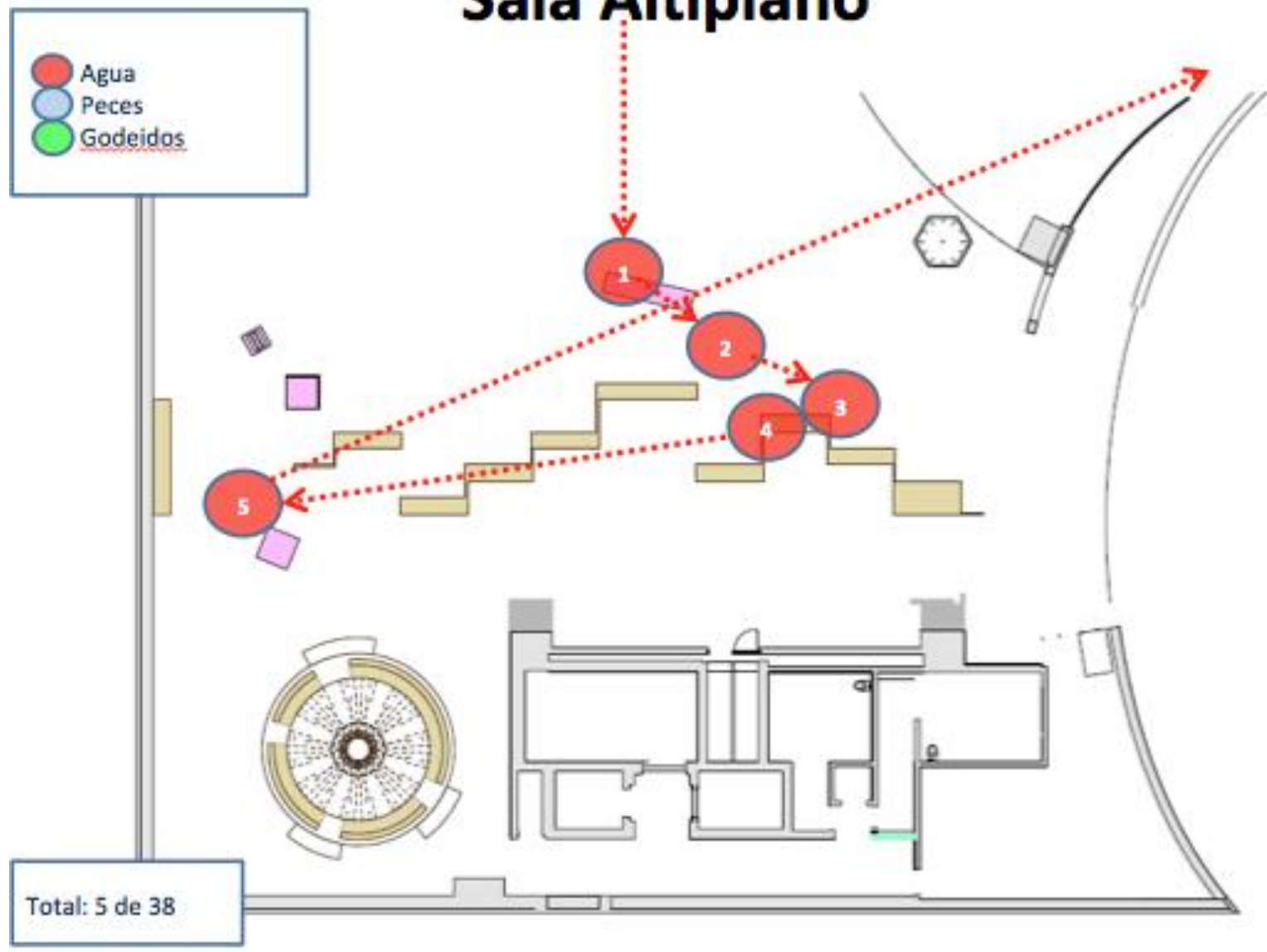
Sala Ciudad





Altiplano Gallery

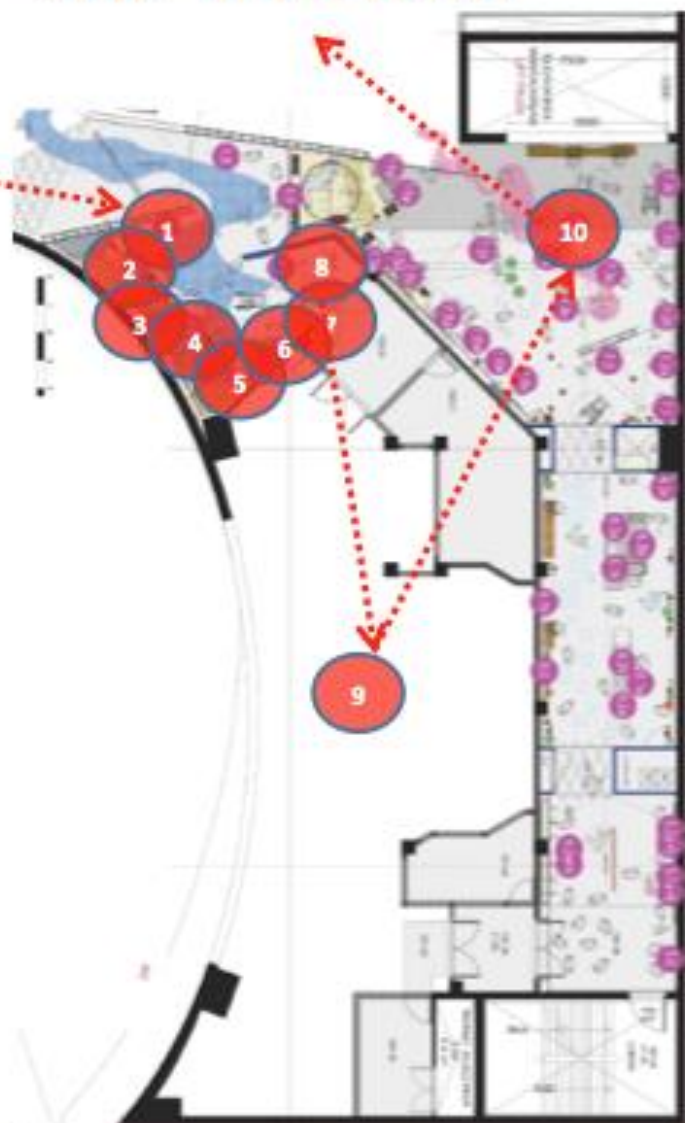
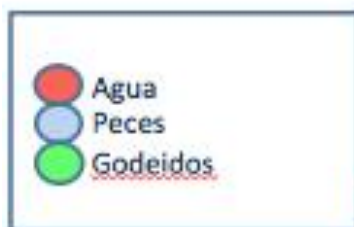
Sala Altiplano





Montaña Gallery

Sala Montaña

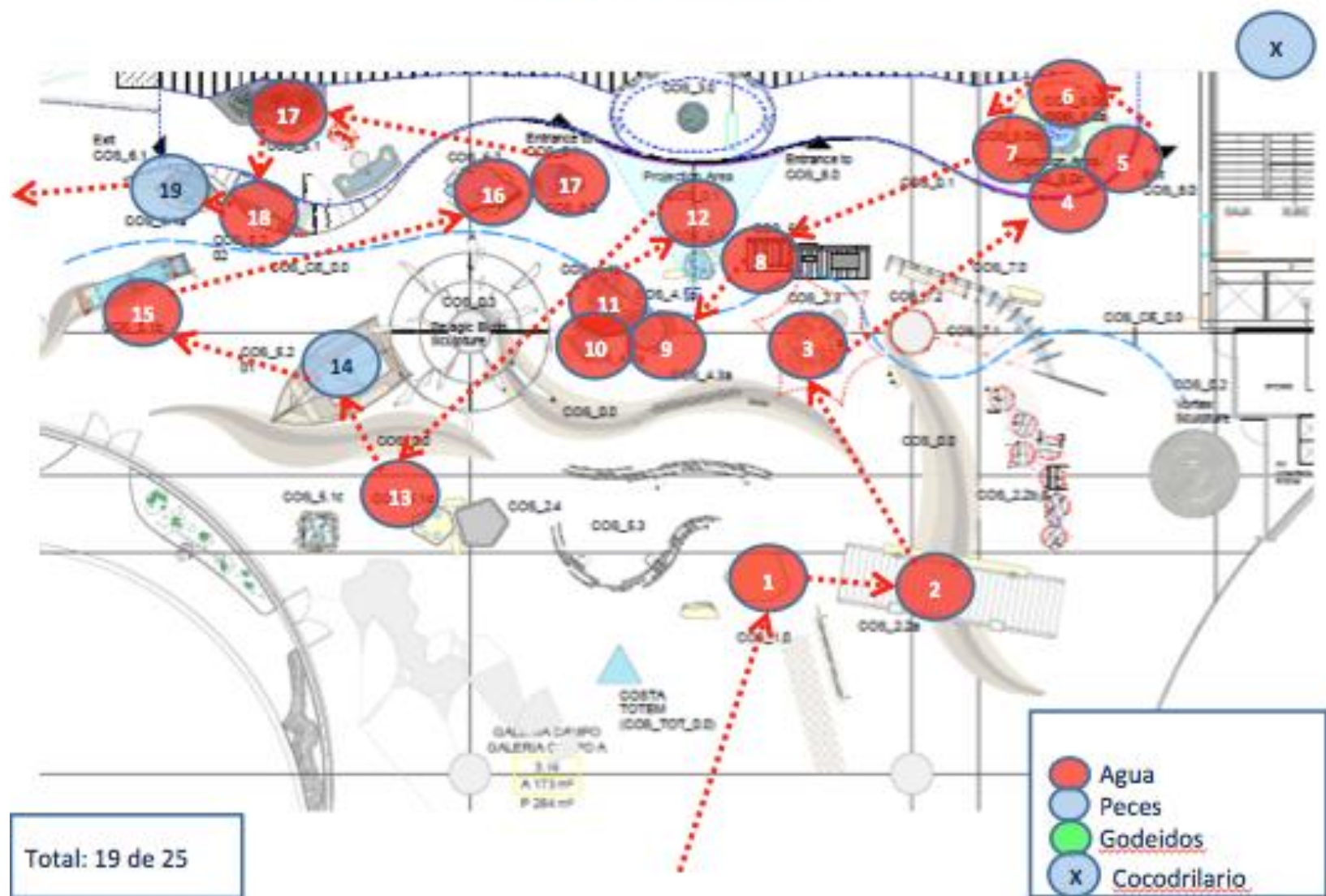


Total: 10 de 23



Costa Gallery

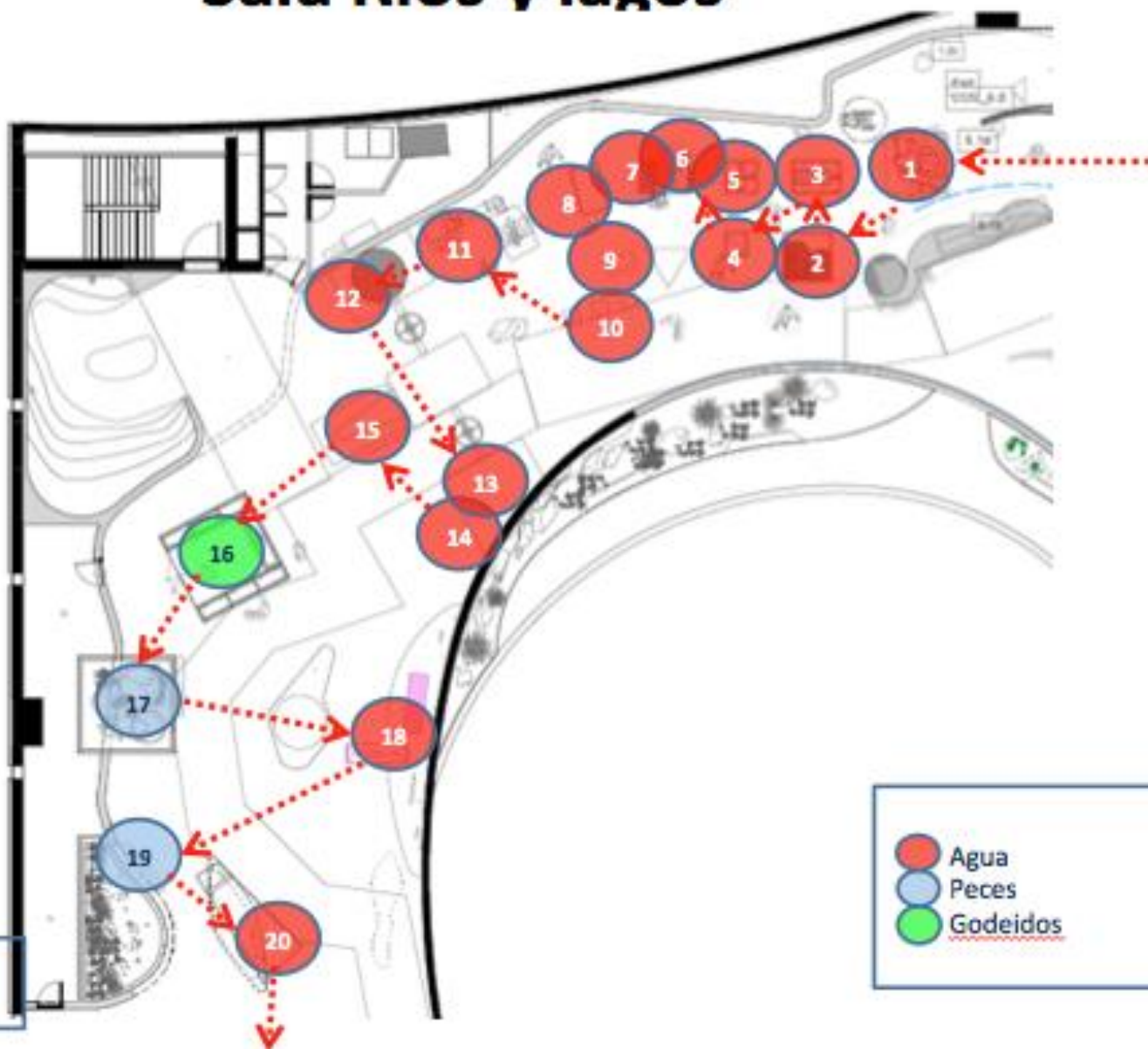
Sala Costa





Ríos y Lagos Gallery

Sala Ríos y lagos

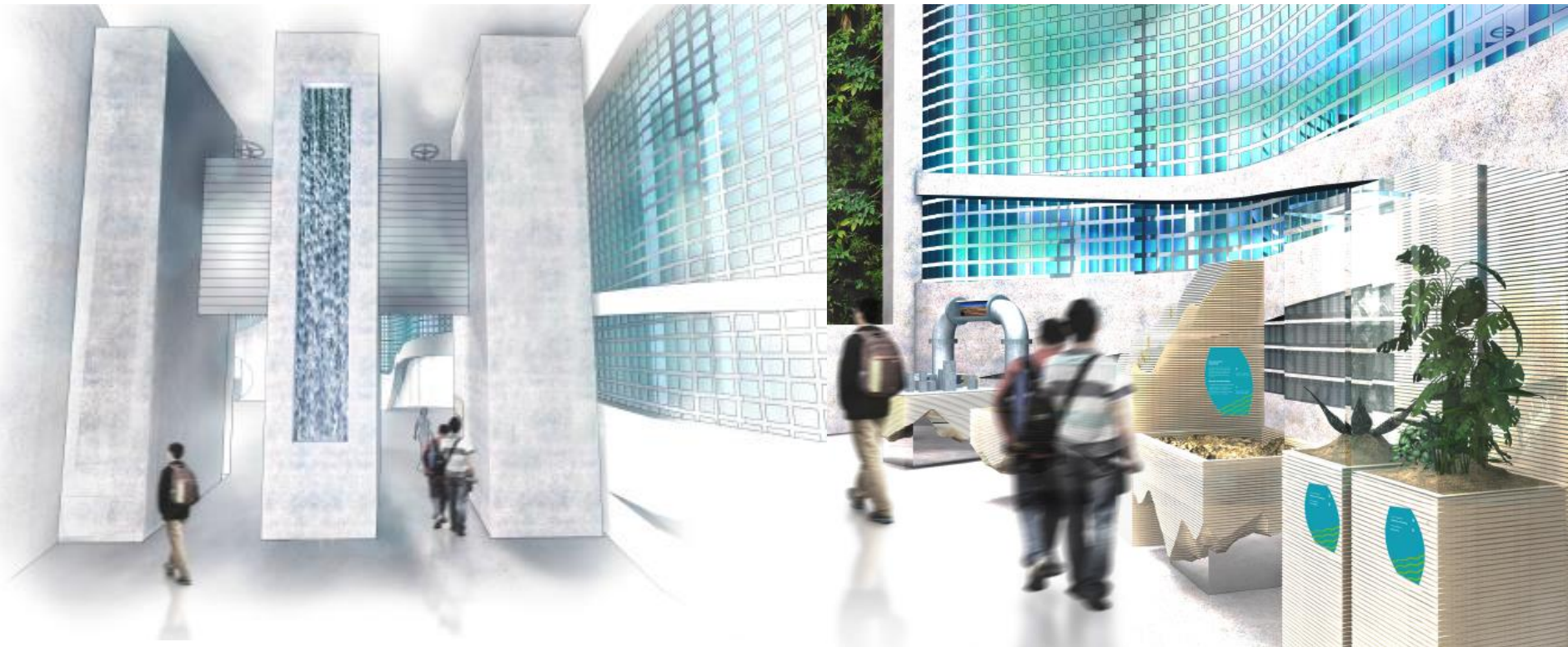


Total: 20 de 24

Ríos y Lagos is one of the four 'wilderness' 'Landscape Galleries' of the MCA, approachable from either direction via the Campo and Costa galleries.

It has a ribbon structure on plan.

The exhibits are loosely organized so that visitors follow an abstracted path from the upper reaches to the river's estuary - and the sea - where the gallery meets the adjacent Costa Gallery.





1. Water in the landscape

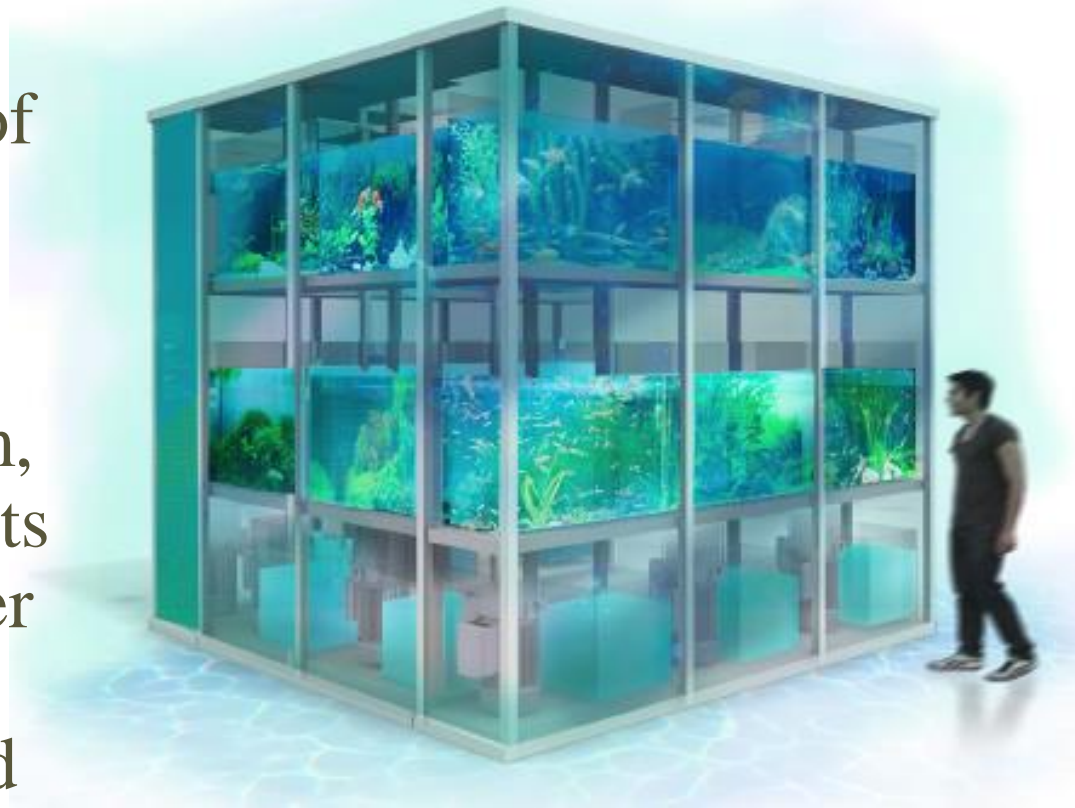


An area populated by sculptural forms where they can learn about the intrinsic relationship between water and the landscape we live in.

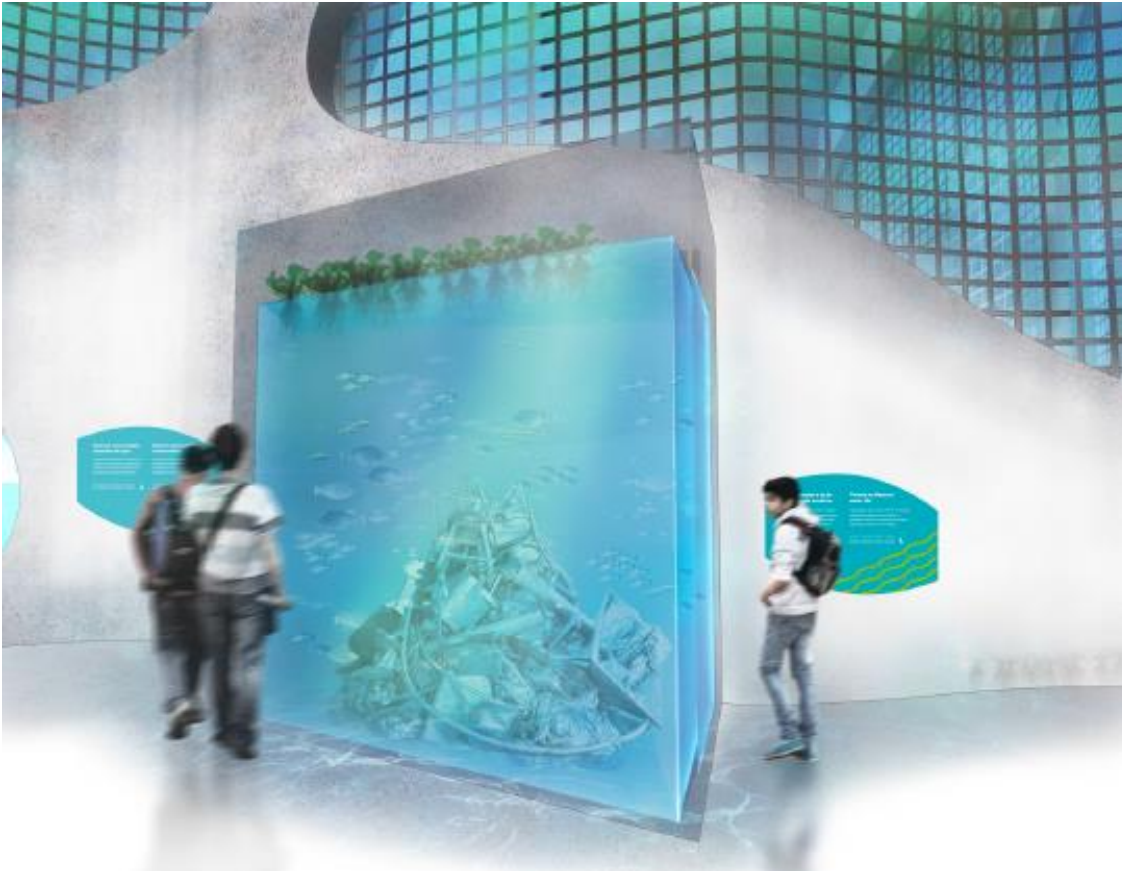
Some are models, some host tactile and interactive experiments, some display video and animated content.

3.1 Local Fish Survival Program

This exhibit is focused on a set of tanks supporting several different species of endemic Goodeid fishes which are part of an endemic species captive breeding program implemented jointly with hobbyists and researchers from other universities of Mexico, North/South America and Europe.



3.2 Threats to Mexico's water life

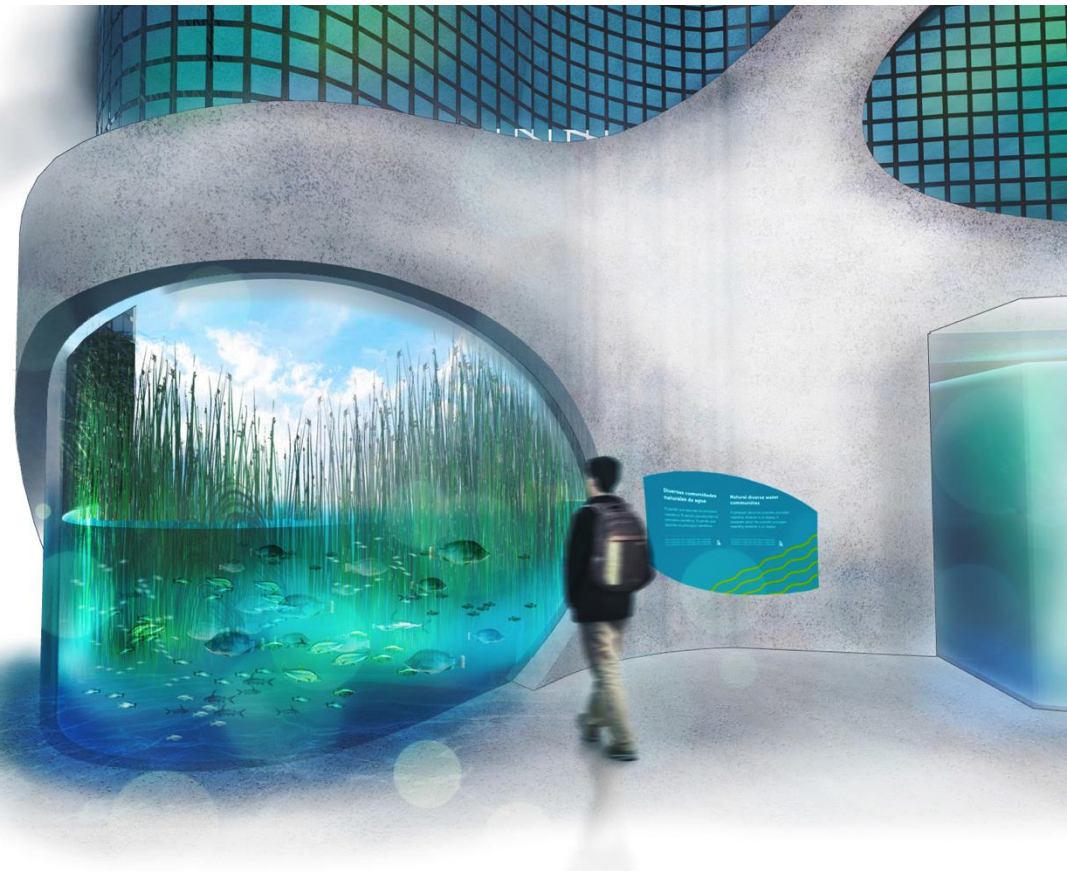


This tank contains a degraded river/lake community; including both introduced sport fish and alien water hyacinth. This tank will feature prominent dramatic lighting and an impressive base setwork, displaying a pile of debris containing all sorts of human waste and pollutants.

3.3 Natural diverse water communities

This tank contains an idyllic scenario of a shore in Lake Chapala. The internal network of the tanks shows a mudbank, and models of native birds also animate the scene.

This area has an overall feeling of beauty and naturally that reflects in the placid, warm and diffuse lighting of the tank.





Campo Gallery

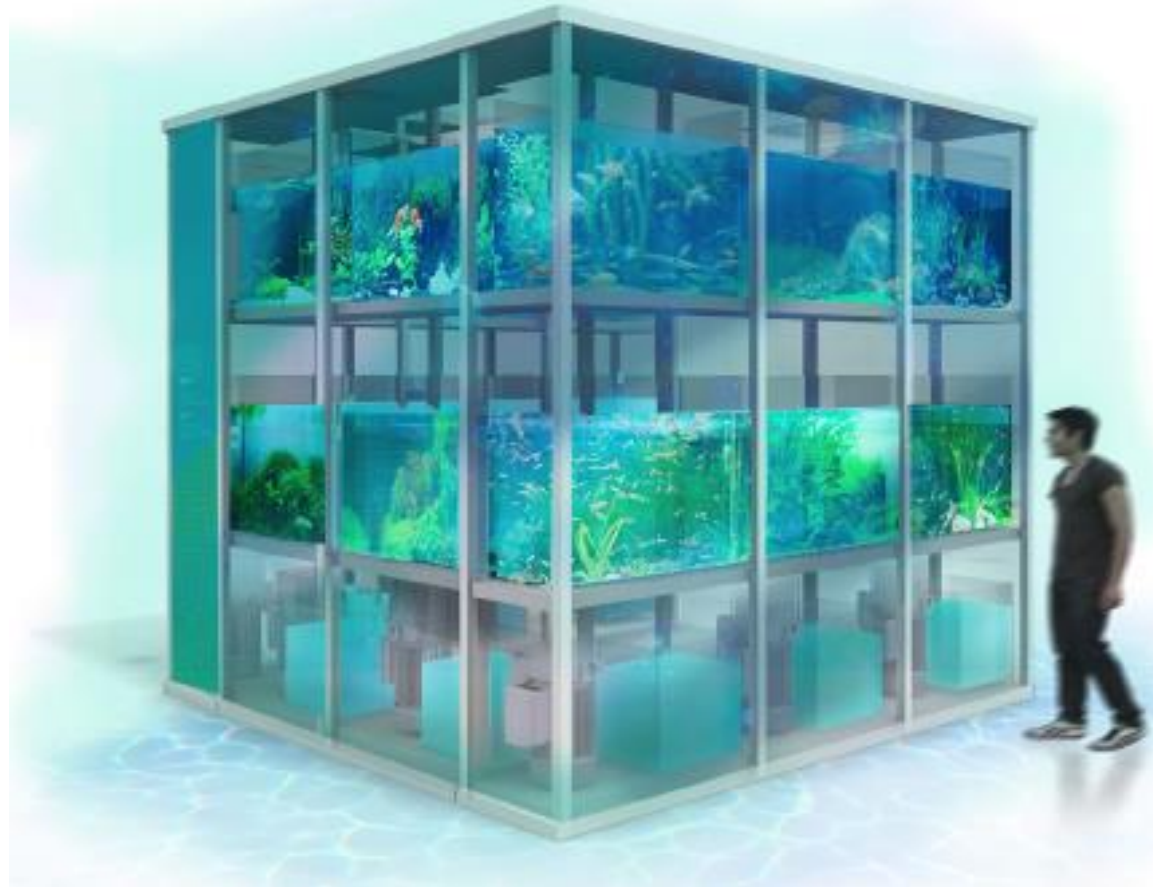
Live Fish Tanks

Detailed description

3.1 Local Fish Survival Program

Water is vital for people and healthy environment but both lake and river landscapes and the traditional communities which rely on them are under threat and steps are needed to support their survival.

This exhibit is focused on a set of tanks supporting several different species of endemic Goodeid fishes which are part of an endemic species captive breeding programme.



Potential Goodeid Species in Exhibit/Program

| Spanish name | English name | Scientific name |
|----------------------|--------------------|------------------------------|
| Mexclapique mariposa | Butterfly splitfin | <i>Ameca splendens</i> |
| Picote Tequila | Tequila splitfin | <i>Zoogoneticus tequila</i> |
| Tiro | Bumblebee allotoca | <i>Allotoca dugesii</i> |
| Tiro pintado | Spotched skiffia | <i>Skiffia multipunctata</i> |

Which other 3 species?

Butterfly splitfin (*Ameca splendens*)

Endangered

El Rincón springwater,
(Jalisco)

Rio Teuchitlán springwater
(Jalisco)

Easy to maintain.

Attractive species.



Pictures: Goodeid Working Group

Tequila splitfin (*Zoogoneticus tequila*)

Extinct in the wild

Reintroduction project by
Universidad Michoacana
de San Nicolás de
Hidalgo.

Easy to maintain.

Attractive species.



male from the Río Teuchitlán (Zoot1) - Copyright Frank Kroenke



males from the Río Teuchitlán (Zoot1) - Copyright Frank Kroenke

Pictures: Goodeid Working Group

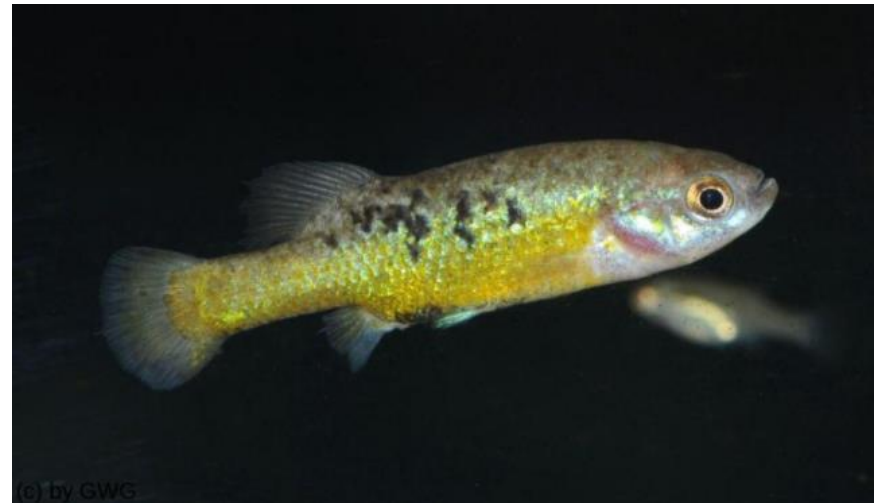
Bumblebee allotoca (*Allotoca dugessi*)

Critically endangered

It used to be found in places around Guadalajara, now only found in close areas to Morelia.

Individuals can be obtained in Rancho Viejo spring close to Patzcuaro, Michoacán.

Attractive species.



Pictures: Goodeid Working Group

Spotched skiffia (*Skiffia multipunctata*)

Endangered

Found around Guadalajara in the past.

Only found in Durero River in Michoacán today

Easy to maintain and reproduce.

Males are very attractive.

Individuals can be obtained at La Luz springs in Zamora/Jacona, Jalisco.

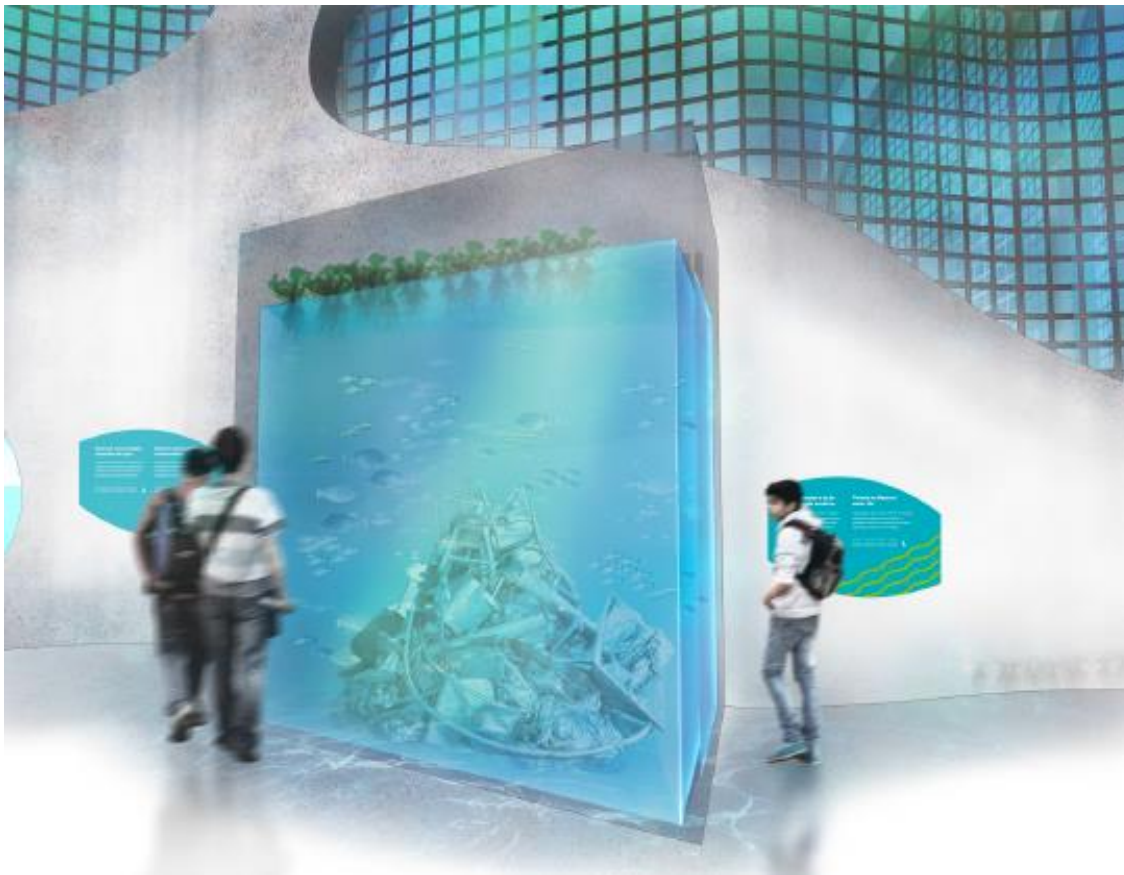


male from Isla de Zamora (Skimu1) - Copyright Ivan Dibble [Next](#)



male from Tangancicuaro (Skimu1) - Copyright Markus Heussen

3.2 Threats to Mexico's water life



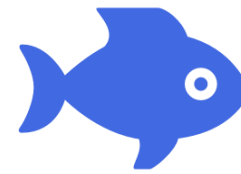
This tank contains an idyllic scenario of a shore in Lake Chapala. The internal network of the tanks shows a mudbank, and models of native birds also animate the scene.

This exhibit works in close proximity with exhibit 3.4.a, devoted to traditional lifestyles and cultures of Lake Chapala.

This area has an overall feeling of beauty and naturally that reflects in the placid, warm and diffuse lighting of the tank.

Fish species

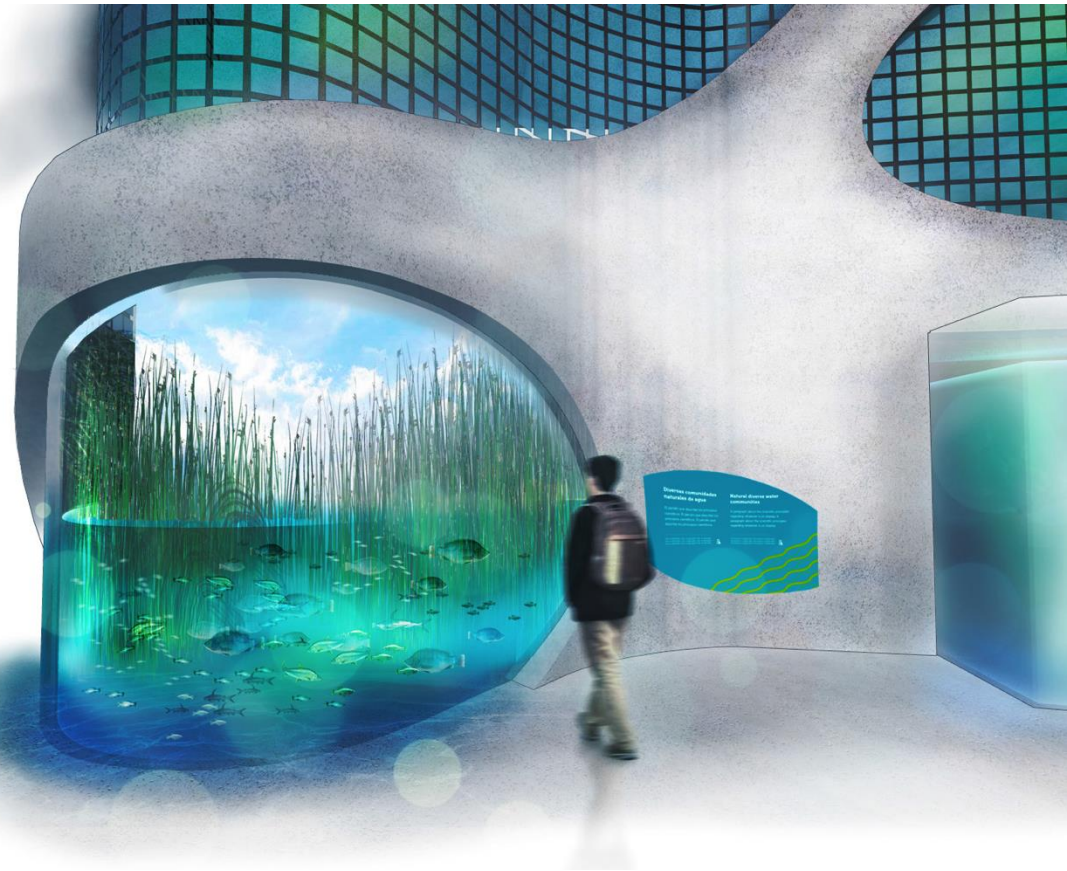
| Spanish name | English Name | Scientific name |
|-----------------------------|------------------------------|--|
| Pez diablo o limpia-peceras | Janitor fish | Pterygoplychthys sp. |
| Tilapia | Tilapia | Oreochromis aureus |
| Carpa común | Common carp or european carp | Cyprinus carpio |
| Poécilo o Molly | Molly | Poecilia mexicana Poecilia sphenops |
| Guatopote manchado | Killfish | Heterandria bimaculata |
| Peces sol | Sunfish | Lepomis macrochirus |
| Lobina | Black bass | Micropterus salmoides |



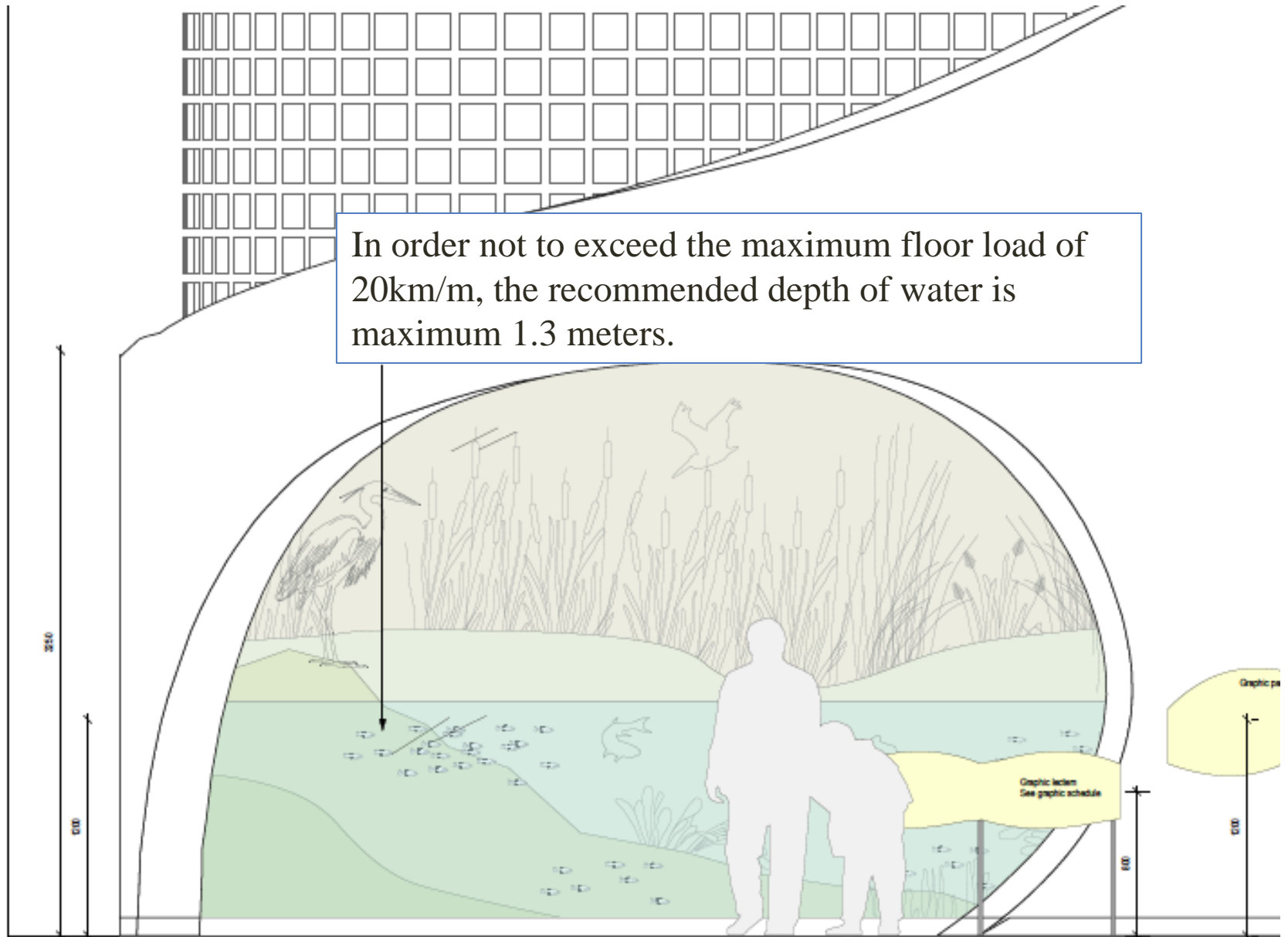
3.3 Natural diverse water communities

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In order not to exceed the maximum floor load of 20kN/m², the recommended depth of water is maximum 1.3 meters.



Fish species

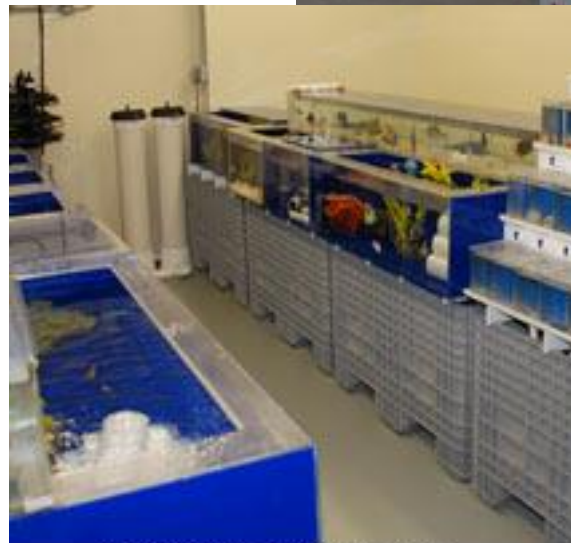
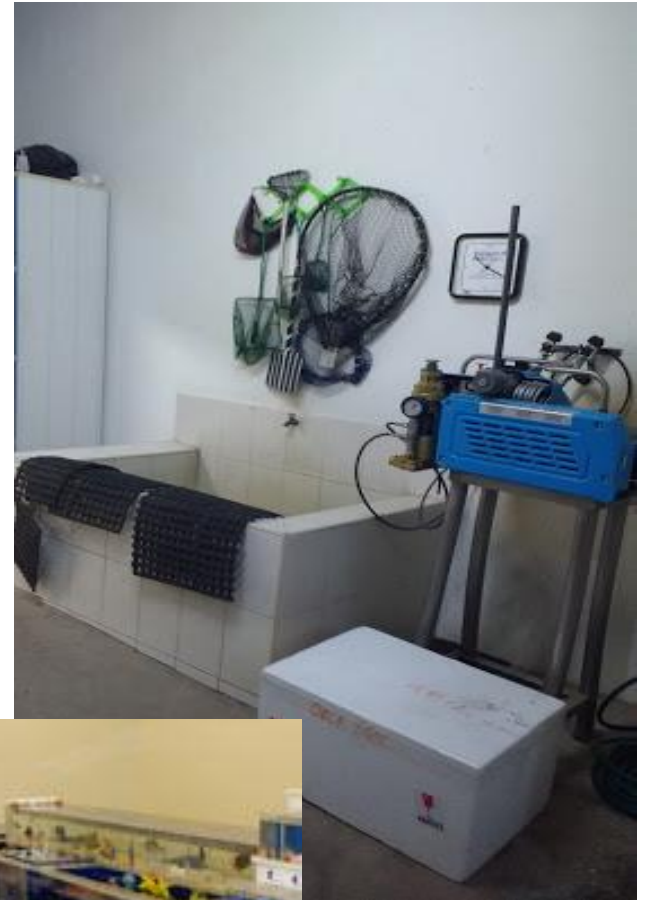
| Spanish name | English name | Scientific name |
|----------------------|---------------------------|--|
| Guatopote del Lerma | Lerma livebearer | <i>Poeciliopsis infans</i> |
| Pintito de Ocotlán | Barred splitfin | <i>Chapalichthys encaustus</i> |
| Tiro | Blackfin goodea | <i>Goodea atripinnis</i> |
| Charal | Mesa silverside | <i>Chirostoma jordani</i> |
| Charal boca negra | Blacknose silverside | <i>Chirostoma promelas</i> |
| Bagre del Lerma | Lerma catfish | <i>Ictalurus dugesii</i> |
| Achoque de Pátzcuaro | Lake Patzcuaro salamander | <i>Ambystoma dumerilli</i> (amphibia) |

Basement

More than 20 m²

Vet care

Back up reproduction
area



Quarantine Fish System